

CLAIMS

What is claimed as being new and desired to be protected by Letters Patent of the United States is as follows:

- 5 1. An retractable bracket device for attachment to an air deflector unit, said device for fitment onto a truck capable of pulling a trailer, the truck having a cab, a front bed wall, a first side bed wall, a second side bed wall and a flat bed flooring disposed between the front bed wall and the two side bed walls of the truck, said device comprising:
- 10 a pedestal attachable to the truck, said pedestal including:
- a first footer attachable to the first side bed wall of the truck;
- a second footer attachable to the second side bed wall of the truck;
- an arch attached to said first and second footers of said pedestal, said arch having a first post, a second post and a crossbar, said first post of said arch is attached to said
- 15 first footer, said second post of said arch is attached to said second footer, said crossbar is attached to said first and second posts of said arch;
- a first support gusset attached to said first footer and attached to the first post of said arch;
- a second support gusset attached to said second footer and attached to said second post of
- 20 said arch;
- a first mounting flap attached to said first post of said arch, said first mounting flap having a first arcuately curved hook distal end defining a first crevice in the distal end of said first mounting flap; and
- a second mounting flap attached to said second post of said arch, said second mounting
- 25 flap having a second arcuately curved hook distal end defining a second crevice in the distal end of said second bracket;
- a first hinge attached to said crossbar of said arch;
- a second hinge attached to said crossbar of said arch;
- an extender arm attached to said first and second hinges, whereby said extender arm is pivotally
- 30 attached to said pedestal, said extender arm including:
- a base member attached to said first and second hinges;

a first leg member attached to said base member, said first leg member having a first threaded shaft protruding outwardly from one side of said first leg member;

a second leg member attached to said base member, said second leg member having a second threaded shaft protruding outwardly from one side of said second leg member;

a first brace attached to said first leg member, said first brace having a first sleeve defining a first hole in said first brace; and

a second brace attached to said second leg member, said second brace having a second sleeve defining a second hole of said second brace,

wherein when said extender arm is pivoted towards said arch of said pedestal then said device is in a lower folded position, and

when said extender arm is pivoted away from said arch of said pedestal so that said respective first and second shafts of said first and second leg members of said extender arm are slidably inserted within said respective first and second crevices of said first and second mounting flaps then said device is in a straightened position;

a third hinge attached to said first leg member of said extender arm;

a fourth hinge attached to said second leg member of said extender arm;

a platform attached to said third and fourth hinges, whereby said platform is pivotally attached to said extender arm, said platform having a generally flat top and a bottom, said platform including:

a plurality of collars traversing through the top of said platform to the bottom of said platform, said plurality of collars defining a plurality of orifices in said platform, wherein said top of said platform and said plurality of orifices are for mounting onto the air deflector unit;

a first flange attached to the bottom of said platform, said first flange having a first interior annular wall defining a first aperture extending through said first flange; and

a second flange attached to the bottom of said platform, said second flange having a second interior annular wall defining a second aperture extending through said second flange,

wherein when said platform is pivoted towards said extender arm then said device is in an upper folded position, and
when said device is simultaneously in the lower folded position and in the upper folded position then said device is in the fully folded position;

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a first threaded nut threadedly connectable to said first threaded shaft of said first leg member of said extender arm;

a second threaded nut threadedly connectable to said second threaded shaft of said second leg member of said extender arm,

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wherein when said device is in the straightened position and when said respective first and second nuts are tightened over said respective first and second shafts then said device is in a lower locked position, and

when said platform is pivoted away from said extension arm so that said first and second braces of said extension arm contact the bottom of said platform then said device is in an semi-unfolded position;

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a first shank insertable within said first aperture of said first flange of said platform, said first shank is also insertable within said first hole in said first brace; and

a second shank insertable within said second aperture of said first flange of said platform, said

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second shank is also insertable within said second hole of said second brace,

wherein when said device is the semi-unfolded position and when said respective first and second shanks are inserted within said respective first and second holes of said respective first and second braces and inserted through said respective first and second apertures of said respective first and second flanges of said platform then said device is in an upper locked position, and

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when said device is simultaneously in the lower locked position and is in the upper locked position then said device is in a fully extended position.

2. The device of Claim 1 further comprising a first rod attached to said first footer of said pedestal, said first rod for insertion into a first aperture in the first side bed wall of the truck.

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3. The device of Claim 1 further comprising a second rod attached to said second footer of said pedestal, said second rod for insertion into a second aperture in the first side bed wall of the truck.

5 4. The device of Claim 1 wherein said device is made of metal.

5. The device of Claim 4 wherein said metal is selected from the group consisting of aluminum, scandium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, yttrium, zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, and mixtures thereof.

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6. The device of Claim 1 wherein said device is made of stainless steel.

7. The device of Claim 1 wherein said device is made of powder coated material.

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8. The device of Claim 1 wherein said device is made of plastic.

9. The device of Claim 8 wherein said plastic is selected from the group consisting of polyester, polypropylene, polyurethanes, polyacryls, polymethacryls, cellulosic polymers, styrene-acryl copolymers, polystyrene-polyacryl mixtures, polysiloxanes, urethane-acryl copolymers, siloxane-urethane copolymers, polyurethane-polymethacryl mixtures, silicone-acryl copolymers, vinyl acetate polymers, and mixtures thereof.

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10. The device of Claim 1 wherein said first shank is a first threaded bolt.

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11. The device of Claim 1 wherein said second shank is a second threaded bolt.

12. An retractable bracket device for attachment to an air deflector unit, said device for fitment onto a truck capable of pulling a trailer, the truck having a cab, a front bed wall, a first side bed wall, a second side bed wall and a flat bed flooring disposed between the front bed wall and the two side bed walls of the truck, said device consisting essentially of:

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a pedestal attachable to the truck, said pedestal including:

a first footer attachable to the first side bed wall of the truck;

a second footer attachable to the second side bed wall of the truck;

an arch attached to said first and second footers of said pedestal, said arch having a first

5 post, a second post and a crossbar, said first post of said arch is attached to said first footer, said second post of said arch is attached to said second footer, said crossbar is attached to said first and second posts of said arch;

a first support gusset attached to said first footer and attached to the first post of said arch;

10 a second support gusset attached to said second footer and attached to said second post of said arch;

a first mounting flap attached to said first post of said arch, said first mounting flap having a first arcuately curved hook distal end defining a first crevice in the distal end of said first mounting flap; and

15 a second mounting flap attached to said second post of said arch, said second mounting flap having a second arcuately curved hook distal end defining a second crevice in the distal end of said second bracket;

a first hinge attached to said crossbar of said arch;

20 a second hinge attached to said crossbar of said arch;

an extender arm attached to said first and second hinges, whereby said extender arm is pivotally attached to said pedestal, said extender arm including:

25 a base member attached to said first and second hinges;

a first leg member attached to said base member, said first leg member having a first threaded shaft protruding outwardly from one side of said first leg member;

a second leg member attached to said base member, said second leg member having a second threaded shaft protruding outwardly from one side of said second leg member;

30 a first brace attached to said first leg member, said first brace having a first sleeve defining a first hole in said first brace; and

a second brace attached to said second leg member, said second brace having a second sleeve defining a second hole of said second brace,

wherein when said extender arm is pivoted towards said arch of said pedestal then said device is in a lower folded position, and

when said extender arm is pivoted away from said arch of said pedestal so that said respective first and second shafts of said first and second leg members of said extender arm are slidably inserted within said respective first and second crevices of said first and second mounting flaps then said device is in a straightened position;

a third hinge attached to said first leg member of said extender arm;

a fourth hinge attached to said second leg member of said extender arm;

a platform attached to said third and fourth hinges, whereby said platform is pivotally attached to said extender arm, said platform having a generally flat top and a bottom, said platform including:

a plurality of collars traversing through the top of said platform to the bottom of said platform, said plurality of collars defining a plurality of orifices in said platform, wherein said top of said platform and said plurality of orifices are for mounting onto the air deflector unit;

a first flange attached to the bottom of said platform, said first flange having a first interior annular wall defining a first aperture extending through said first flange; and a second flange attached to the bottom of said platform, said second flange having a second interior annular wall defining a second aperture extending through said second flange,

wherein when said platform is pivoted towards said extender arm then said device is in an upper folded position, and

when said device is simultaneously in the lower folded position and in the upper folded position then said device is in the fully folded position;

a first threaded nut threadedly connectable to said first threaded shaft of said first leg member of said extender arm;

a second threaded nut threadably connectable to said second threaded shaft of said second leg member of said extender arm,

wherein when said device is in the straightened position and when said respective first and second nuts are tightened over said respective first and second shafts then said device is in a lower locked position, and

when said platform is pivoted away from said extension arm so that said first and second braces of said extension arm contact the bottom of said platform then said device is in an semi-unfolded position;

a first shank insertable within said first aperture of said first flange of said platform, said first shank is also insertable within said first hole in said first brace; and
a second shank insertable within said second aperture of said first flange of said platform, said second shank is also insertable within said second hole of said second brace,

wherein when said device is the semi-unfolded position and when said respective first and second shanks are inserted within said respective first and second holes of said respective first and second braces and inserted through said respective first and second apertures of said respective first and second flanges of said platform then said device is in an upper locked position, and

when said device is simultaneously in the lower locked position and is in the upper locked position then said device is in a fully extended position.

13. The device of Claim 12 wherein said device is made of metal.

14. The device of Claim 13 wherein said metal is selected from the group consisting of aluminum, scandium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, yttrium, zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, and mixtures thereof.

15. The device of Claim 12 wherein said device is made of stainless steel.

16. The device of Claim 12 wherein said device is made of powder coated material.

17. The device of Claim 12 wherein said device is made of plastic selected from the group consisting of polyester, polypropylene, polyurethanes, polyacryls, polymethacryls, cellulosic polymers, styrene-acryl copolymers, polystyrene-polyacryl mixtures, polysiloxanes, urethane-
5 acryl copolymers, siloxane-urethane copolymers, polyurethane-polymethacryl mixtures, silicone-acryl copolymers, vinyl acetate polymers, and mixtures thereof.

18. The device of Claim 12 wherein said first shank is a first threaded bolt.

10 19. The device of Claim 12 wherein said second shank is a second threaded bolt.

20. A method of using a retractable bracket device for attachment to an air deflector unit, the device for fitment onto a truck capable of pulling a trailer, the truck having a cab, a front bed wall, a first side bed wall, a second side bed wall and a flat bed flooring disposed between the
15 front bed wall and the two side bed walls of the truck, said method comprising the steps of:

obtaining the device comprising:

a pedestal attachable to the truck, the pedestal including:

20 a first footer attachable to the first side bed wall of the truck;

a second footer attachable to the second side bed wall of the truck;

25 an arch attached to the first and second footers of the pedestal, the arch having a first post, a second post and a crossbar, the first post of the arch is attached to the first footer, the second post of the arch is attached to the second footer, the crossbar is attached to the first and second posts of the arch;

30 a first support gusset attached to the first footer and attached to the first post of the arch;

a second support gusset attached to the second footer and attached to the second post of the arch;

5 a first mounting flap attached to the first post of the arch, the first mounting flap having a first arcuately curved hook distal end defining a first crevice in the distal end of the first mounting flap; and

10 a second mounting flap attached to the second post of the arch, the second mounting flap having a second arcuately curved hook distal end defining a second crevice in the distal end of the second bracket;

a first hinge attached to the crossbar of the arch;

15 a second hinge attached to the crossbar of the arch;

an extender arm attached to the first and second hinges, whereby the extender arm is pivotally attached to the pedestal, the extender arm including:

20 a base member attached to the first and second hinges;

a first leg member attached to the base member, the first leg member having a first threaded shaft protruding outwardly from one side of the first leg member;

25 a second leg member attached to the base member, the second leg member having a second threaded shaft protruding outwardly from one side of the second leg member;

30 a first brace attached to the first leg member, the first brace having a first sleeve defining a first hole in the first brace; and

a second brace attached to the second leg member, the second brace having a second sleeve defining a second hole of the second brace,

5 wherein when the extender arm is pivoted towards the arch of the pedestal then the device is in a lower folded position, and

10 when the extender arm is pivoted away from the arch of the pedestal so that the respective first and second shafts of the first and second leg members of the extender arm are slidably inserted within the respective first and second crevices of the first and second mounting flaps then the device is in a straightened position;

15 a third hinge attached to the first leg member of the extender arm;

 a fourth hinge attached to the second leg member of the extender arm;

20 a platform attached to the third and fourth hinges, whereby the platform is pivotally attached to the extender arm, the platform having a generally flat top and a bottom, the platform including:

25 a plurality of collars traversing through the top of the platform to the bottom of the platform, the plurality of collars defining a plurality of orifices in the platform, wherein the top of the platform and the plurality of orifices are for mounting onto the air deflector unit;

30 a first flange attached to the bottom of the platform, the first flange having a first interior annular wall defining a first aperture extending through the first flange; and

 a second flange attached to the bottom of the platform, the second flange having a second interior annular wall defining a second aperture extending through the

second flange,

wherein when the platform is pivoted towards the extender arm then the device is in an upper folded position, and

when the device is simultaneously in the lower folded position and in the upper folded position then the device is in the fully folded position;

a first threaded nut threadedly connectable to the first threaded shaft of the first leg member of the extender arm;

a second threaded nut threadedly connectable to the second threaded shaft of the second leg member of the extender arm,

wherein when the device is in the straightened position and when the respective first and second nuts are tightened over the respective first and second shafts then the device is in a lower locked position, and

when the platform is pivoted away from the extension arm so that the first and second braces of the extension arm contact the bottom of the platform then the device is in an semi-unfolded position;

a first shank insertable within the first aperture of the first flange of the platform, the first shank is also insertable within the first hole in the first brace; and

a second shank insertable within the second aperture of the first flange of the platform, the second shank is also insertable within the second hole of the second brace,

wherein when the device is the semi-unfolded position and when the respective first and second shanks are inserted within the respective first and second holes of the respective first and second braces and inserted through the respective first and

second apertures of the respective first and second flanges of the platform then the device is in an upper locked position, and

when the device is simultaneously in the lower locked position and is in the upper locked position then the device is in a fully extended position;

placing the device into the fully folded position;

attaching firmly the air deflector unit onto the top of the platform of the device;

adjoining the first footer of the pedestal of the device onto the first side bed wall of the truck;

affixing the second footer of the pedestal of the device onto the second side bed wall of the truck;

rotating pivotally the extender arm away from the arch of the pedestal so that the respective first and second shafts of the first and second leg members of the extender arm are slidably inserted within the respective first and second crevices of the first and second mounting flaps, whereby moving the device from the fully folded position to the straightened position;

tightening the respective first and second nuts onto the respective first and second shafts when the device is in the straightened position whereby moving the device from the straightened position to the lower locked position;

raising pivotally the platform away from the extension arm so that the first and second braces of the extension arm contact the bottom of the platform whereby moving the device from the lower locked position to the semi-unfolded position;

inserting the respective first and second shanks into the respective first and second holes of the respective first and second braces and through the respective first and second apertures of the respective first and second flanges of the platform, whereby moving the device from the semi-unfolded position to the fully extended position;

hooking up the trailer to the truck;

5 towing the trailer with the truck when the device is in the fully extended position and when the
air deflector unit is attached to the device;

unhooking the trailer from the truck;

10 withdrawing the respective first and second shanks from the respective first and second holes of
the respective first and second braces and from the respective first and second apertures of the
respective first and second flanges of the platform, whereby moving the device from the fully
extended position to the semi-unfolded position;

15 swinging pivotally the platform towards the extender arm, whereby moving the device from the
semi-unfolded position to the upper folded position;

loosening the first and second nuts from the respective first and second shafts, whereby moving
the device from the upper folded position to the straightened position; and

20 revolving pivotally the extender arm towards the arch of the pedestal, whereby moving the
device from the straightened position to the fully folded position.